

CLAIMS

What is claimed is:

- 5 1. A method for generating a panoramic image,  
comprising the steps of:  
capturing a series of image frames each of a  
portion of a panoramic image scene;  
combining the image frames into a panoramic  
10 image while the series of image frames is being  
obtained.
2. The method of claim 1, wherein the step of  
capturing comprises the steps of:  
15 capturing a first image frame having a  
resolution that corresponds to a resolution of the  
panoramic image;  
capturing a second image frame having a  
resolution that corresponds to the resolution of the  
20 panoramic image if a relative motion between the  
first and second image frames is detected.
3. The method of claim 2, further comprising the  
step of determining the relative motion by capturing  
25 a series of image frames having a resolution that is  
lower than the resolution of the panoramic image.
4. The method of claim 3, wherein the lower  
resolution is selected to maintain an overlap in the  
30 image frames having the lower resolution in response  
to the relative motion.
5. The method of claim 2, further comprising the

step of detecting the relative motion using a motion sensor.

6. The method of claim 2, wherein the step of  
5 combining comprises the step of combining the first  
and the second image frames in response to the  
relative motion.

7. The method of claim 5, further comprising the  
10 step of discarding an overlapping portion of one of  
the first and second image frames from the memory.

8. The method of claim 1, wherein the step of  
capturing comprises the step of capturing a series of  
15 image frames each of a strip of the panoramic image  
scene.

9. The method of claim 8, wherein the strips have a  
set of dimensions that are selected to maintain an  
20 overlap in the strips.

10. The method of claim 9, further comprising the  
step of adjusting the dimensions to maintain the  
overlap.  
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11. The method of claim 1, further comprising the  
step of providing a visual feedback to a user that  
indicates the progress of the panoramic image.

30 12. The method of claim 11, wherein the step of  
providing a visual feedback comprises the step of  
providing a depiction of missing areas of the  
panoramic image.

13. The method of claim 11, wherein the step of  
providing a visual feedback comprises the step of  
providing a depiction of areas of the panoramic image  
5 that need to be re-sampled.

14. The method of claim 1, further comprising the  
step of capturing a set of image frames that define a  
set of boundaries of the panoramic image.  
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15. The method of claim 1, further comprising the  
steps of:  
performing a zoom in on an object of interest in  
the panoramic image;  
15 capturing an image frame that provides a sample  
of the object of interest such that the image frame  
of the object of interest has a higher resolution  
than the image frames obtained from a remainder of  
the panoramic image;  
20 recording a set of metadata pertaining to the  
zoom;  
combining the image frame of the object of  
interest with the remainder of the panoramic image in  
response to the metadata.

25  
16. A camera, comprising:  
image sensor for capturing a series of image  
frames each of a portion of a panoramic image scene;  
processor for combining the image frames into a  
30 panoramic image while the series of image frames is  
being obtained.

17. The camera of claim 16, wherein the image frames

include one or more image frames having a resolution that corresponds to a resolution of the panoramic image and one or more image frames having a resolution that is lower than the resolution of the panoramic image.

18. The camera of claim 16, wherein the processor determines a relative motion between the image frames.

19. The camera of claim 16, further comprising a motion sensor.

20. The camera of claim 16, further comprising a memory for storing portions of the image frames for the panoramic image.

21. The camera of claim 16, wherein the image frames each comprise a strip of the panoramic image scene.

22. The camera of claim 16, further comprising means for providing a visual feedback to a user that indicates the progress of the panoramic image.

23. The camera of claim 16, further comprising means for performing a zoom in on an object of interest in the panoramic image such that the image sensor captures an image frame of the object of interest having a higher resolution than the image frames obtained from a remainder of the panoramic image and the processor records a set of metadata pertaining to the zoom.

24. The camera of claim 23, wherein the processor combines the image frame of the object of interest with the remainder of the panoramic image in response to the metadata.